

THE ALUMINUM WORLD, THE BRASS FOUNDER AND FINISHER, THE ELECTRO-PLATERS REVIEW, COPPER AND BRASS A TRADE JOURNAL RELATING TO METALS AND ALLOYS

## Index of Volume 10

# JANUARY—DECEMBER, 1912

### THE METAL INDUSTRY PUBLISHING COMPANY, 99 John Street, New York

ARTICLES MARKED (\*) ARE ILLUSTRATED.

### ARTICLES.

Pa	ige.
Alloys, Nomenclature of, A Note on the  *Alloys Research Report Number 10281, Alloys, Need of for Special Purposes  *Aluminum, Advance of, in the Foundry. Aluminum, New Uses for  *Aluminum, NewPoses for Soldering of  *Aluminum Costing, A Remarkable  *Aluminum Costing, A Remarkable  Aluminum Costing Utensiis, Polishing  Aluminum Novelty Business, The  Argental, A New White Metal Alloy  *Art Metal Work, Influence of Style in the	283
В	
*Belt Tightening Idler, A *Boronized Copper, Progress of Work on Brass, Engineering Economies in the Manu-	195 124 167 459 462 153
facture of	378
"Brass Founding Hints on 16 60	163
Brass Goods, Plumbing, Raising the Standard of Quality in.  Brass Goods, Plumbing and Steam, Mak-	203
ing Good Shipments in the Manufacture of Brass Manufacturing Plant, Sanitary Equip-	503
ment of a Modern	74
*Brass Mill on the Hudson	150
*Brass Mill on the Hudson *Brass Plating *Brass, Wrought, The Manufacture of.	461
*Bronze Gears and Pivot Discs for Operating Machinery on Emergency Dams of the	331
Panama Canal Bronze Powder Industry in Germany113,	149 152
*Bronzes, Artistic	15
*Bronzes, Artistic	107
the, in France	115
*Buffalo, The Convention City	363 403
	200
C	
*Carborundum Compared with Emery in the	286
Polishing Room *Cartridges, Rifle, The Manufacture of *Chalice, A Twentieth Century	1
*Chalice, A Twentieth Century	326
*Chasers, Threading, for Brass Work, The	161
Care and Grinding of *Copper Alloys for Motor Car Service	495
*Copper-Smiths, Chilean	73
*Copper-Smiths, Chilean	114
Uses  *Copper, Its Variations and Modifications.  *Copper, Notes on	333
*Copper, Notes on	447
Copper Alloy, A New Malleable	6
1912	247
<ul> <li>*Copper and Its Alloys In Early Times, 109, 154, 199,</li> </ul>	244
*Copper Sheets, Photo-Engravers	10
Core Room, Brass Foundry, The Modern and	970
*Corundum	278 125
*Crucibles, Long-Lived	241

D	
Pa	ge.
*Die, Drawing, Simple *Die Castings and the Machines	230
*Dies Blanking	120
	205
*Dies, Hardened Steel, Lapping of	289
*Dies, Piercing	157
*Drop Presses, Foundations for	25
E	
Electricity in the Plating Room	329
Electro-Plating, Future, Present and Past	
of	9
Electro-Plating, Modern* *Electro-Plating, Use of Measuring Instru-	423
ments in* *Exhibition of Metals, The First	493
*Exhibition of Metals, The First	317
*Eynon-Evans Manufacturing Company, Brass	233
Foundry of	600
F	
*Foundry Tests and Foundry Practice	448
Finish, French Gray, The	122
Finish, Grecian Gold, The	322
Finish, French Gray, The. Finish, Grecian Gold, The. Finish Roman Gold, The. Furnace, The Oll or Crucible.	464
*Furnaces, Zinc Smelting and Refining, Elec-	303
trie	242
_	
G	
*Galvanizing, Electro	79
German Silver, Firecracking in, The Cause	
and Prevention of	379
and Prevention of	422
*Goss, Chauncey PorterGun Metal Dip For Steel, A Cheap	71
Gun Metal Dip For Steel, A Cheap	294
1	
Iron, Plating with Aluminum	336
J +	
*Jewelry, Design, Various Methods Employed	
*Jewelry Designers, A. Equipment	204
*Jewelry Designers, A. Equipment	499 287
*Jewelry, Handmade, The Revival of	404
K	
*Kettle, Lye, in Plating Room of the Hydro-	
Carbon Company	202
Carbon Company	
Steel Blades of	494
L	
*Lacquer, The Production and Treatment of	421
*Lathe Fox Tool Holder	167
*Lathe, Fox, Tool Holder Lead Coating Process	278
*Lead Mill	279
*Lead-Tin Alloys, Effect of Thermal Changes	000
00	290
"Love's Labor Lost"	284
00	
"Love's Labor Lost"	
"Love's Labor Lost"  Machines, Screw, Hand Operated, Tap and	
"Love's Labor Lost"  Machines, Screw, Hand Operated, Tap and	284
"Love's Labor Lost"  Machines, Screw, Hand Operated, Tap and	284 321 5
"Love's Labor Lost"  M  Machines, Screw, Hand Operated, Tap and Die Revolving Attachment for.  Manganese Bronze—An Historical Sketch.  Manganese Bronze, The Influence of Pouring Temperature on.	284 321
on "Love's Labor Lost"  M  Machines, Screw, Hand Operated, Tap and Die Revolving Attachment for.  Manganese Bronze—An Historical Sketch  Manganese Bronze, The Influence of Pouring Temperature on.  Metal Articles, The Drying of, Before and	284 321 5 419
"Love's Labor Lost"  M  Machines, Screw, Hand Operated, Tap and Die Revolving Attachment for.  Manganese Bronze—An Historical Sketch.  Manganese Bronze, The Influence of Pouring Temperature on.	284 321 5

Metal Goods, Finishing, By Means of Steel	ige.
<ul> <li>Metals, The Joining of.</li> <li>Metallic Surfaces, Decorative Effects on.</li> <li>Metallizing of Non-Metallic Objects</li> <li>Molding Machine, The, In a Brass Foundry</li> </ul>	249 501 237 246 372 376
N	
Nickel on Nickel, The Deposition of •Nickel Plating Solutions, The Assay of, 165, 209,	
P	
*Pump Casing, A Large Bronze	12 330 202 505 69 327
_	0-0
R	
Rolling and Tube Mill, The Modern, Some Questions on	466
6	
3	
Sandblast, Application of the, to the Gold and Silver Industries  Scrap, The Selection and Use of  Silver, Anodes  Silver, Plating, The, of Casket Hardware, German Silver, Brass and Copper Hollow-Ware and Steel Knives  Solutions, Cyanide, Effect of Electric Current on, and a Simple Way for Their Preparation  *Spelter, High-Class, The Manufacture of, from Galvanizers' Waste.  Spotting Out	507 22 121 371 78 323 464
*Storage Batteries, Advantages of, in the Electro-Plating Industry	159
Sustained Effort	465
T	
Tanks, Iron, Used for Plating, The Leaking	
of "Test Bars for Non-Ferrous Alloys." "Tin, Origin, Manufacture and Beauty of Tinning Iron Tools, Press, Lubricants for Tripoli and Tripoli Compositions. Trisalyt, The Modern Compound for Electro- Plating in Brass, Copper, Bronse, Silver	158 456 7 117 320 160
and Gold* *Turret Lathe Practice, A Few Suggestions	245
on, in the Manufacture of Brass Goods	13

U \*United Brassfounders and Engineers, Ltd., Halifax, England, Branch Brass Foundry. 450 V

W	Lewis, Ernest A. Some Questions on the	"Assaying and Metallurgical Analysis." E.
*Water Works. The Metal Work of a Gigan-	Modern Rolling and Tube Mill	L. Rhead and A. H. Sexton
tle	High-Class Spelter from Galvanizers'	searches." W. H. Hatfield 383
Z	Waste	"Copper Handbook, The." Horace J. Stevens 85 "Electro Analysis." Edgar F. Smith 34
*Zine, Beinvior of Heated	Scrap 22	"General and Industrial Inorganic Chem-
Zinc Losses	Mason, Frank. Application of the Sand- blast to the Gold and Silver Industries 507	istry." Dr. E. Molinari
	McPhee, Hugh. The Oil or Crucible Furnace 464	"Metallography of Iron and Steel." Albert
AUTHORS	Munger, William P. *Effect of Thermal Changes on Lead-Tin Alleys	Sauveur
Allan, Andrew, Jr. *Patent Centroversy Over Bearing Metals	Owen, James. *The Metal Work of a Gigan- tic Water Works	"Primer of Scientific Management." Frank
Archer, Isabelle, "Some Artistic Brovzes of	Parry, W. H. Sustained Effort 465	B. Gilbreth
Olden Times	Parry, W. H. *The Molding Machine In a Brass Foundry	CDITIONS AND
made Jewelry	Parry, W. H. "The Woes of a Pattern-	CRITICISM AND
Barr, William II. *Copper Alloys for Motor Car Service	Keeper	COMMENT
Bassett, W. H. Need of Special Alloys for Special Purposes	Peck, George W. *Foundations for Drop Presses	Aluminum         Bronze         86           Aluminum         "Sicknesses" of         511
Bassett, W. H. Zine Losses	Pett, Albert, Finishing Metal Goods by	Ammeters vs. Voltmeters383, 426, 469
Blair, Peter W. Making Good Shipments in	Means of Steel Balls	Ball, Steel, Burnishing.         128           Brass, 70-30, Hot-Rolling.         254
the Manufacture of Plumbing and Steam Brass Goods	Before and After Plating	Buffalo Convention Echo, A
Blair, Peter W. *Raising the Standard of Quality in Plumbing Brass Goods 203	Proctor, Charles H. Future, Present and Past of Electro-Plating	Color Deposition
Blair, Peter W. *Sanitary Equipment of a	Proctor Charles H *Recent Progress of	Critics, A Word on
Modern Brass Manufacturing Plant 74 Blair, Peter W. "The Care and Grinding of	"Voltite" 77 Proctor, Charles H. The French Gray Finish 122 Proctor, Charles H. The Grecian or Roman	Drying Machine, Automatic         35           M. E., The Lordly         170
Threading Chasers for Brass Work 161 Blair, Peter W. "The Manufacture of Steam	Proctor, Charles H. The Greeian or Roman Gold Finish	Oil Sand Core Inventor Discovered 128
Metal Globe Valves 367	Proctor, Charles H. The Production of Pig-	Optical Pyrometry         426           Persels Nickel Salts         469
Blair, Peter W. The Modern Brass Foundry Core Room and the Old	Proctor, Charles H. The Silver Plating of	Plater's Plaint, Replies to34, 86, 128
Blassett, Emmanuel, Jr. The Deposition of Nickel on Nickel	the Steel Blades of Table Knives	Plating Racks         128           Rare Combination, A
Blassett, Emmanuel, Jr. The Electro-	Proctor, Charles H. Trisalvt 245	Rust Proofing
Deposition of Cobalt	Reama, Herman H. *The Silver Plating of Casket Hardware, German Silver, Brass	Specifications, Standard, Zinc170, 254
as a Substitute for Lacquer	and Copper Hollow-ware and Steel Knives 371 Reardon, W. J. *Molding Machines and	Thanks!!
Plating Solutions	Multiple Core Boxes	Tumbling Barrels         171           Turret Lathe Practice         213
Brown, Percy S. Modern Electro-Plating, 423 Brown, Percy S. *Recent Progress in the	Richards, Joseph W. *The Vaporization of Metals	
Brown, Percy S. *Recent Progress in the Rust Proofing of Iron and Steel	Remains, Lawrence B. A Jewelry De-	SHOP PROBLEMS
Clare, Thomas, The Cause and Prevention	Robbins, Lawrence B. "Various Methods	Δ
of Firecracking in German Silver 379 Davis, Frank P. *The Production and	Employed in Jewelry Design	Alloy, Aluminum, for Match Plates and
Davis, Frank P. *The Production and Treatment of Lacquer	Art Metal Work of Modern Times. 26, 151, 248 Schweigert, Harry. *Buffalo, The Convention	Patterns 255
Practice	City 363	Alloy, Die-Casting
16, 69, 163	Scott, James. *Copper: Its Variations and Modifications	Alloy to Resemble 22 Karat Gold
Delamothe, L. G. History and Evolution of the Bronzing Industry in France 115	Scott, James. *Origin, Manufacture and Beauty of Tin 7	and Streaked Appearance of
Dietz, Ernest, *A Few Suggestions on Tur- ret Lathe Practice in the Manufacture of	Scott, James, "The Behavior of Heated	Aluminum, Lubricant to Use to Get a
Brass Goods	Zine	Smooth Finish on
Dietz, Ernest, "Tap and Die Revolving At- tachment for Hand Operated Screw Ma-	Ter Dowst, H. J. *The Leaking of Iron Tracks Used for Plating	Melting and Casting au
chines 321	Ter Doest, H. J. "The Use of Mensuring	Anodes, Silver, Cause of Coating on 88
Eichstaedt, T. C. Polishing Aluminum Cooking Utensils	Instruments in Electroplating	В
Eichstaedt, T. C. *Polishing Wheels, Their Construction, Use, Care and Abuse207, 505	the Manufacture of Brass	Barrel Plating, How to Obtain a Bright
Evans, Oswald H. *Chilean Copper-Smiths, 73 Glichrist, B. W. *Cleaning Metals	Walster, Charles E. The Pattern Shop	Finish in
Gillett, H. W. The Influence of Pouring	Weber, Max G. Effect of Electric Current	Bearings, Brouze, How to Cast
Temperature on Manganese Bronze 419 Goerck, Theodore T. "A Twentieth Century	on Cyanide Solutions and a Simple Way for their Preparation	Brass, Formula for Bluing 36
Chalice	Welstranb, Dr. E. Progress of Work on	Brass, Formula for Coloring, Black 427 Brass, Hot Rolling of
Gold, Walter C. Tripoli and Tripoli Com-	Boronized Copper	Brass, How to Overcome Spotting Out of, After Plating
positions 160 Gowland, William, *Copper and IIs Alloys	Metallic Surfaces	Brass for Grain Drills, Mixture for 470
in Early Times	Sheets	Brass, Sheet, Best Flux for Brazing 470 Brass, to Cement to Glass, Formula for 255
Grimshaw, Robert, Newly-Discovered "Sick-	Wood, R. A. Some Results from Melting Brass Chips	Brass Washers, Best Method of Making 298 Brass and Porcelain, Mixture to Unite 214
ness" of Aluminum	EDITORIALS	Brass Solution, Deposit Uneven, Remedy for 256
Aluminum 336 Heap, Walter, "The Manufacture of Rifle	American Institute of Metals 124	Brazing Cold, Formula for
Cartridges	Brass Making	Britannia Metal, Formula for Casting 255 Britannia Metal, Formula for Spinning 255
Hobbs, Franklin W. *Carboroudum Com- pared with Emery in the Polishing Room, 256	Convention The Buffalo	Britannia Ware, How to Remove Old Silver
Hoffman, August G. A Cheap Gun Metal	Leauomies of the Future	Before Replating
Dip for Steel 294 Hogaboson, George B. Spotting Out. 464	Eight-Hour Law, The	Bronze, Hydraulic, Formula for
Holz, Hermann, *The Latest Progress in Optical Pyrometry	Exhibition of Metals, An	Brouze Color on
Howard, George M. *Advantages of Stor- age Batteries in the Electro-Plating I :-	New Allevs 163 Retrospective Review of 1911, Outlook for	Bronze, Mixture to Stand 250° Heat 214 Bronze, To Oxidize a Yellow-Brown on 130
dustry 150	1912	Bronze, White, Formula for, Substitute for German Silver
Huenerfauth, S. E. Electricity in the Plat- ing Room	Safety and Speed	Burns, Brass Foundry, Best Remedy for 513
Jones, Jesse L. Babbitt Metal	Some Problems of Corrosion 168 Standard Short Specifications 212	Bushes, Alloy for Casting, in Iron Molds 340 Bushings, Brass, Formula for 297
bitted Bearings	Tariff Reduction	C
Jones, Jesse L. *Manganese Bronze, An Historical Sketch	Wealth and Scrap	Castings, Ductile, How to Make 427
Alloys 456		Cement to Unite Brass with Glass 36
Karr, C. P. The Difficult Art of Casting	NEW BOOKS	Chandelier Castings, Bronze and Brass, Cores for
German Silver	Aluminum, Production of, and Its Indus- trial Use. Adolphe Minet	Copper, Oxidized, To Prevent Spotting Out
Ings	American Brass Founders Association.	Collar Buttons, How to Finish 427
Business	American Electro-Chemical Society, Transac-	Copper Kitchen Utensils, How to Tiu 428 Copper Pipes, Non-Conductor for 37
Krom, L. J. *The Manufacture of Wrought Brass 20, 118, 331 Krouse, L. G. *Brass Flating 461	tions of, Vol. XX, 1911	Copper Rod, Best Lubricant to Use When Turning and Threading
Krouse, L. G. *Brass Plating	vin and Stanley	Core Mixture 172
chines	American Society for Testing Materials, Proceedings of the	Core Sand, Mixture for Plumbers' Supply Work

Cores, How to Vent for Brass Valves 513
Crucibles, Clay, to Prevent Cracking at
High Heat
D
Dip, Acid
Drop Hammers, How to Minimize Vibration 513 Dynamo for Five Hundred Gallon Solution, 214
E
Electric Cleaner
Electricity, To Determine if Current is Direct or Alternating
Electrotype Metal, Formula for Making 471
Emery, Grade of, Used in Grinding Lead 130 Emery Wheels, To Remedy Trouble With, When Grinding Aluminum 384
When Grinding Aluminum
Etching, Acid to Use for Brass
Etching with a Rubber Stamp 297
Finish, Antique, On Silver-Plated Copper
Goods 172 Fluish, Blue Gray on Navigator's Instru-
Finish, Brush Brass on Iron or Steel 384 Finish, Crystal Green
Finish, Green on Hardware 88
Finish, Gold or Gilt, Cold
Finish, Silver Green
Finish, Statuary Bronze on Steel
Finishes, Black and Yellowish-Green Patinas
Finishing, by Means of Bronze Pigments 512
Galvanizing. Formula for
Gauges, Caliner, Use in Joh Shop. 37
Gas Generator Castings, Mixture Suitable for
German Silver, Cause of Pitting 130 German Silver, Flux for Casting 470
German Silver, Pickle for, After Annealing, 87 Gilding, Formula for Without Gold 172
Glass. How to Cement Metal Letters to 297
vent Breakage
Glassware, Silver Plating on
Gold, 10 and 14 k., Cause of Smoky or Red- dish Appearance on
Gun Metal, Formula for Red Color of 87
Hose Couplings, Standard Sizes of 340
Hose Couplings, Standard Sizes of 340
Iron, Cast, To Oxidize 341
Iron, Cast, To Oxidize
Out 299 Iron, Wrought, To Take Off Scale and Brighten 298 Iron or Steel, Coating to Protect Against
Iron or Steel, Coating to Protect Against Salt Air 255
Salt Air 255
Knife Handles, Hardened Steel, How to
Frost
Lacquer to Finish Brass Bed Parts 384
Lathe Correct Speed to Run a When Spin-
Lead, Percentage of Loss in Melting 87
Lead Dross, Best Way to Reduce 471 Lead Explosions, To Avoid When Making
Hammer and Vise Leads in Molds 37 Lead Pipe, Composition, Formula for 214
Lead Pipe, Composition. Formula for
M
Manganese Bronze, Practice to Follow in
Making
Mirrors, Silvered, Method of Copper Plat- ing
Molding Sand, Mixture for Flat Casting 130 Molds, Material for Dressing the Odd-side
of
N
Nickel, Carbonate, Best Way to Make from Sulphate of Nickel
Sulphate of Nickel 427 Nickel Plates, How to Strip by Electricity 172 Nickel Solutions, Consistency of Mud Which
Accumulates at Bottom
0
Oxidizing, Nickel, Formula for 215
Potterns and Matchillates Aluminum Aller
Patterns and Matchplates, Aluminum Alloy for
Pewter, Formula for Hard 130

Pa	ero I
Pipe Joints, How to Prevent Leaking of	340
sults from a	341
Platinum, How to Put a High Polish on	256 298
Plumbing and Steam Brass Goods, a U. S. Standard for Lengths and Diameters of	
Threads	428
rowders. Leau, Am and Zine, Method of	384
Making	513
Rouge, How to Remove Before Gilding	384
S	001
Signs, Sheet Metal, Black Filler for	427
Silver Plated Ware, How 40 Overcome the Oxide on	470
Silver Plated Articles To Prevent Oxidizing	355
Silver Plates, How to Strip by Electricity.	172 171
When Packed in Leather Silver Plates, How to Strip by Electricity. Silverware, Method to Remove Fire from. Solder, Aluminum, Formula for	513
Solder, German Silver, With Low Fusing Point and Free from Pit Holes Solder, Melting Point Over 1,000 degrees	299
Solder, To Color Like Copper	37 171
Solder, North Over Low acgress. Solder, To Color Like Copper. Solder for Brass Work Soldering Fluid, Formula for. Solution, 14 Karat Yellow Solution, Plack Nickel	215 341
Solution, 14 Karat Yellow	130
Solution, 14 Karat Yellow. Solution, 14 Karat Yellow. Solution, Brass, Formula for Barrel Plating Solution, Brass, Red, Cold. Solution, Brass, Rules for Keeping in Condition Solution, Brass, Yellow, Cold.	513 200
Solution, Brass, Rules for Keeping in Con-	
	341 299
Solution, Bronze, To Prevent Conting on Anodes	172
Solution, Cold Gold, How to Get a Bright Color from a	512
Solution, Copper, Amount of Bisulphite of Soda to Use in a	428
Solution, Copper, Amount of Bisulphite of Soda to Use in a Solution, Cyanide Copper, Density of Solution, Cyanide Copper, To Remedy Spongy	37
	385
Solution, Cyanide Copper, Remedy for Spot- ting	172 298
Solution, Electro-Galvanizing	214
in Solution, Gold, Amount Necessary to Plate	471
65 Square Inches of Surface	88
Solution, Gold, Cheap 14 Karat	385 427
Solution, Gold, Cold, 24 Karat	513 87
Solution, Nickel, To Soften	256 428
Solution, Oxidize	341
to Use Per Week	37
Solution, Silver, Formula for	513
Deposit and Even Density	428 37
Solution, Silver, Test for Free Cyanide Solution, Striking, How to Make More	
Active Solution, Trisalyt, To Replenish Solutions, Damaged by Fire, How to Re	471 298
	215
cover Solutions, Plating, Method for Reducing Temperature of	385
Temperature of Steel, Formula for Bluing Steel, Formula for Bluing Steel, High Speed, How to Anneal Steel, Method of Rust-Proofing. 256,	36 470
Steel, Method of Rust-Proofing 256, Steel, Solution for Copper Plating	471 384
Steel. Te Close Un Seams in	385
Steel Plates, Hard, How to Get a High Polish on Steel Sheets, Method for Coating After	385
Stamping	129
T	
Thimbles, Cheup Method of Pluting Inside	
of Thrend, Best Kind to Use on Compression Bibb and Steam Globe Valves	200
Bibb and Steam Globe Valves	471
the Threads Tin. To Protect Bright Surface of. Tin Dross, Best Furnaces for Melting Down Tinned Goods, To Prevent Turning Yellow	215 340
Tiuned Goods, To Prevent Turning Yellow	256
After Packing Tiuning, Flux for Tubes, Brass, To Roll.	
Aubes, Brass, 10 Roll.	0.1717
Valves, Ball, To Bright Dip	129
w	
Wheel, Polishing, What Kind to Use to Take Dirt and Oxide off Copper	37
Wheels, Polishing, Use of Neatsfoot Oil on.	88
Wire, Copper, Method of Coating With Gold and Then Redrawing. Wire, Copper, How to Cover with Brass	57
-	428
Zinc. To Get a Dull Coat of, on Forged	1
Iron	

PATENTS	
A	Э.
*Air-Brush, Olaus, 1.017,358. C. Wold, Chi-	12
Alloy, 1.025,131. J. W. Donnell, Evanston.	
III. 22 Alloy. Anti-Corrosive, or Metallic Compound, 1,019,963. Gaston, Jacquier, Belgravia,	
Alloy of Copper and Zinc, 1,040,027. Alfred	13
Alloy Iron-Nickel-Conner 1 016 549. G. H.	
Alloy, Metallic, 1,020,757. Geza Hartmann, San Francisco, and R. J. Busch, Los An-	31
Alloy for Coating with Metal, 1,014,946. C.	73
Almost Comment for The Land Collaboration	31
and Process of Forming Same, 1,032,494, J. J. Natzman, Detroit, Mich	86
Avis, Jr., Clarksburg, W. Va	83
Becker, Tserlohn, Germany  *Aluminum or Alloys Containing Aluminum,  Process for Direct Nickeling, 1,030,972	90
*Aluminum or Alloys Containing Aluminum, Process for Direct Nickeling, 1,030,972, Marc Chirade and Joseph Cauae, Paris, France 3	43
Frânce	74
*Anode Support, 1,036,654. C. E. Leffel, Meadville, Fa	30
*Apparatus, Pressure-Casting, 1,639,173, A. W. Morris, Philadelphia, Pa	14
*Rlawnine 1.098 262 R L Kissel Jon-	
*Reaging Burger 1 033 967 Wm H Van	42
Horn, Baltimore, Maryland,	29
*Brick for Metallurgic Furnaces, 1.016,350.	72
Pittsburg, Pa.  *Buffing Machine, 1,022,128, E. R. Doug- las, Glenside, Pa.  *Burnishing Tool, Rotary, 1,010,127, B. F.  Dingley, Silon Spring, R. I.	32
las, Glenside, Pa	17
Dingley, Silon Spring, R. 1	38
*Cartridge Cases of Brass of Other Alloys	
of Copper, Manufacture of, 1,024,840,* Heinrich Ehrhardt, Dusselderf, Germany, *Casting Apparatus, 1,017,707, F. W. Tracy,	258
*Casting Apparatus, 1.017.707. F. W. Tracy, Chicago *Castings, Art of Making, 1.013.548. C.	73
M. Grey, East Orange, N. J	59
790. Arthur Herrmann, Leipzig, Germany Compound Metal Body and Process of Makling Same, L.(43,578). B. E. Eldred, Bronxville, N. Y., assignor to Commercial Research Company.  "Condensers, Surface, and Other Metal Structures, Means for Preventing Corresion of, L.(20,480, P. E. Elliott, Gloncoster, Victoria, Australia.  "Copper, Process for Refuling, L.(37,538). W. S. Rockey and H. Eldridge, New York  Copper Alloys, Mannfacturing and Refining.	51.4
Bronxville, N. Y., assignor to Commercial Research Company	515
<ul> <li>Structures, Means for Preventing Corresion of, 1,020,480, P. E. Elliott, Glou-</li> </ul>	
cester, Victoria, Australia	174
1 017 629 W S. Rockey and H. Eld-	127
ridge, New York Copper Alloy, Old or Scrap, Process of Re-	132
melting and Refluing, 1,019,524. W. S. Rockey and H. Eldridge, New York	173
*Cores, Machine for Venting and Wiring, 1,015,610. J. E. Borgen, Berwyn, Illinois	90
H. Reid, Newark, N. J.  *Crueible Cover, 1,029.815, Thomas McGrath, Springfield, Mass.	300
PS PS	342
*Detinning Machine, 1,021,302, W. M. Con-	
nor, Baltimore, Maryland	174
*Detinning Machine, 1,021,302, W. M. Con- ner, Baltimore, Maryland  *Pile-Casting Apparatus, 1,013,665, W. A. Leddell, Red Bank, N. J. Die Stamping Press, 1,043,362, E. M. Savory, Brislol, and F. A. W. Watley, Wimbledon, England  *Disk-Grinder, 1,029,882, John Miller, Jr., Beloit, Wis.  *Poust Collector, 1,029,214, Orville M. Morse, Jackson, Michigan	90
Wimbledon, England  *Disk-Grinder 1629 882 John Miller Jr.	515
Beloit, Wis. *Dust Collector, 1,029,214, Orville M. Morse,	343
Jackson, Michigan Dust Collector, 1.043,551. C. R. Thurman,	301
	515
*Electrodeposition of Metals, 1,036,571. J.	-
A. Corey, Datchet, England	472
Plante-Intle Deposition of Matela 1 005 505	217 342
*Electroplating Apparatus, 1,034,219. J.	392
*Flectroplating, Process of, 1,029,965, Jonas W. Aylsworth, E. Orange, N. J.	342
*Electroplating Apparatus, 1.022,487. G. H. Lutz, Plainfield, N. J.	217

Page.	Page.	PATENTEES
Electroplating Apparatus, 1,028,786. Marcellus Reid, Clevelaud, Ohio 300	*Molding Machine, 1,021,938. Hugh Mc- Kay, Dallas, Texas	Δ
Electropiating Process, 1,025,760, F. J. McElhone, Jersey City, N. J	*Molding Machine, 1,027,066. E. A. Prid- more, La Grange, Illinois	Page,
Electroplating Rack, 1,010,638. J. F.	*Molds and Cores, Method of and Apparatus	Abbott, G. E., Hartford, Conn. *Ball-Roll- ing Machine, 1,017,125
Kitchen, Meadville, Pa	for Making, 1,034,336. J. C. Bannister, Kewanee, Illinois	Armstrong, M. S., New Kensington, Pa.  *Coating of Metal Articles, 1,012,047 39
Leffel, Meadville, Pa	D	Ashcroft, W. T., Waterbury, Conn. *Wire
Metal, 1.022,274. Otto C. Strecker, Eber-	*Pipe or Tube Bending Machines, 1,021,440.	Straightener, 1,012,964
stadt, Germany	J. F. Cox, Bayonne, N. J	cess of and Composition for Coating Alumi- num or its Alloys for Soldering, 1,029,522, 283
W. Baker, Dayton, Ohio 514	lin, Bloomfield, N. J 301	Axelrod, S., Oberschönweide, Germany. Color-
Flask for the Casting of Metal Bodies,	l'olishing Machine, 1,043,973. T. H. Schesch, Ilion, N. Y., assignor to Union Type-	ing Metals, 1,023,291
1,028,603. Edward Pipher, Port Hope,	writer Company, Jersey City, N. J 515	cess of Electroplating, 1,029,965 342
Ontario	*R	В
away Park, N. Y	*Rings, Finger, Machine for Rolling, 1,026,- 983. Henry Heinrich, New York 300	*Baker, Horace W., Dayton, Ohio.—Machine for Etching Plates, 1,039,242
ner, Lintorf, Germany 342	*Rolling Mill, 1,031,055. V. E. Edwards, Worcester, Mass	Bannister, J. C., Kewanee, Illinois. *Method of and Apparatus for Making Molds and
*Furnace for Annealing, etc., 1,037,665. W. S. Rockwell, New York	*Rolling or Reducing Mill, 1.021,628. W.	Cores, 1,034,336 430
Furnace, Crucible, 1,013,472. G. E. Behrens, Torrington, Conn	G. Reeves. E. Providence, R. I 216	Beach, H. E., Birmingham, England. *Electrolytic Anode, 1,019,588
Furnace, Crucible, 1,020,090. D. R. Steele,	S	Beadle, G. W., Bayonne, N. J. *Machine for Making Metal Tubes, 1,018,291 132
Curtis Bay, Maryland	*Sand, Molding, Apparatus for Preparing Old and New, 1,036,239. George Hoffman,	Becker, Ernest and Otto, Tserlohn, Ger-
H. J. De Bats, Zelienople, Pa	Hanover-Mainholy, Germany 430 *Sand-Blast Device, 1,016,415. Albert Jorn,	many. Process of Electroplating Aluminum and its Alloys, 1,014,560
Holzapfel, Eddystone, Pa 472	Jr., Waukegan, Ill 131	Behrens, G. E., Torrington, Conn. *Crucible Furnace, 1,013,472
<ul> <li>Furnaces, Melting, Attachment for, 1,036,853.R. T. Johnston, Scotch Plains,</li> </ul>	*Sand Blast Device, 1,026,688. Walter Macleod, Fort Thomas, Ky	Blevney, J. C., Newark, N. JGrinding
N. J. 472  Furnace, Portable, 1,025,515. Merrill  Davis, Watertown, N. Y. 258	*Sand Sifter, 1,037,371. H. Tscherning, Freeport, Illinois	and Polishing Machine, 1,043,194 515 Borgen, J. E., Berwyn, Ill. *Machine for
Davis, Watertown, N. Y	*Shears, Metal-Cutting, 1,031,056. V. E.	Venting and Wiring Cores, 1,015,610 90 Brinkman, L. H., Glen Ridge, N. J. *Grind-
*Furnace, Rotary, 1,010,728. E. E. Davis, Jersey City, N. J	Edwards, Worcester, Mass	ing and Buffing Wheel, 1,023,807 257
Furnace, Sherardizing, 1,034,930, John Riddell, Schenectady, N. Y 429	cox, Waterbury, Conn 301	Broemme, Eduard, St. Petersburg, Russia, and Rudolf Steinau, Nuremburg, Ger-
G	T	many.—Process of Recovering Zinc from Galvanized Iron Articles, 1,042,315 514
·Galvanizing Apparatus for Metal Tubes,	*Tank, Dip, with Automatic Cover, 1,020,- 526. Fredk. B. Weibel, Newark, N. J 174	Burgess, C. F., Madison, Wisconsin. Alloy
Rods and the Like, 1,015,863. Federico Werth, Milan, Italy	Trolley Wheel, 1,039,589. John W. Pen-	for Coating with Metal, 1,014,946 131 Busch, R. J., Los Angeles, Cal., and Geza
*Graphite Metal and Method of Producing	*Tube Caps, Collapsible, Machine for Mak-	Hartmann, San Francisco. Metallic Alloy, 1,020,757
It, 1,022,465. R. T. Cole, S. Portland, Maine	ing. 1,033,043. Richard L. Wilcox, Waterbury, Coun	C.
*Grinding and Polishing Machine, 1,025,417. W. F. Miller, Fond Du Lac, Wis 258	*Tube Drawing Machine, 1,019,805. R.	Carroll, E. H., Worcester, Mass. *Wire
Grinding and Polishing Machine, 1,043,194.	Koenig, Brooklyn, N. Y	Drawing Block, 1,008,950 89
J. C. Blevney, Newark, N. J 515	Deebe, Detroit, Michigan	Catlin, Seth C., Bloomfield, N. J. *Plating Machine, 1,030,053
Inlaying Metal, Process of, in Masses, Such	Philadelphia, Pa 387	Cauae, Joseph, and Marc Chirade, Paris, France. Process for Direct Nickeling of
as Celluloid, Ebonite and the Like, 1,024,203. Jacob Kauffman, Wilmers-	*Tubes, Metal, Machine for Making, 1,018,- 291. G. W. Beadle, Bayonne, N. J 132	Aluminum, 1,030,972
dorf, Germany	*Tube-Rolling Mill, 1,036,309. Adolf A. K. Nolvak, Bons-on-the-Saar, Germany 430	France. Process for Direct Nickeling of
Iron, Method of Copperising, 1,014,454. W. S. Clark, Geelong, Victoria, Australia 131	<ul> <li>Tubes, Formation of the Ends of, for Drawing Purposes, 1,031,000. H. Higgin,</li> </ul>	Aluminum, 1,030,972
L	Newport, Kentucky 386	Making Bimetallic Wire, 1,011,744 39 Clamer, G. H., Philadelphia, Pa. Iron-
*Lathes, Turning, Attachment for, 1,030,981. C. L. Dickert, Macon, Georgia 343	*Tubes, Metal, Machine for Making, 1,019,- 043. Henry Higgin, Newport, Kentucky., 173	Nickel-Copper Alloy, 1,016,549 131
*Lathes, Turret, Attachment for, 1,041,994.	*Tubes, Mode of Holding Them, During Operation of Drawing Them, 1,025,568.	Claremont, E. A., Old Trafford, and J. Strat- ton, Altingham, England. *Apparatus for
C. L. Goodrich, Hartford, Conn 473	H. Higgin, Newport, Kentucky 258 *Tubes, Rods or the Like, Apparatus for	Drawing Wire, 1,015,913
*Machine, Ball-Rolling, 1,017,125. G. E.	Heating, 1.033,497. Charles Vallone and	of Copperizing Iron, 1,014,454 181 Cole, R. T., S. Portland, Maine. *Graphite
Abbott, Hartford, Conn	Frank R. Rogers, Buffalo, N. Y 387 *Tubing, Lock-Joined Angular Metal, Ma-	Metal and Method of Producing It.
H. Plaute, Atlanta, Ga	chine for Making, 1,023,049. J. Standee, Brooklyn, N. Y	1,023,465
*Machine, Tumbling and Polishing, 1,038,791. H. B. Richardson, Attleboro, Mass 473	*Turret Operating Mechanism, 1,022,086. J.	tinning Machine, 1,021,302
*Machine for and Method of Scalping Flat "Metal Bars, 1,011,265. D. L. Summey,	H. Jam, Chicago, Ill 216	trodeposition of Metals, 1,036,571 472
Waterbury, Conn 38	W	Courtney, W. J., Chicago. *Buffing Wheel, 1,011,323
Magnesium and Alloys Thereof, Melting and Casting, 1,028,216. B. Hoffmann and R.	*Welding. Method of Electro, 1,034,290. H. E. Parish, New York	Cox, J. F., Bayonne, N. J. *Pipe or Tube Bending Machine, 1,021,449
Suchy, Graesheim, Germany	Welding Copper, Process for, 1,013,134. R. C. Davidson, Fort Blackmore, Va 89	D
Davoren, Denver, Colo	Wheel, Buffing, 1,011,323. W. J. Courtney,	Davidson, R. C., Fort Blackmore, Va. Pro-
Mechanism for Drawing Patterns from Molds, 1,042,780. B. D. Finder, J. B.	*Wheel, Buffing and Grinding, 1,023,807. L.	cess for Welding Copper, 1,013,134 89
Rellly and T. A. Rellly, Cleveland, Ohio. 515 *Metal, Extruding, Machine for and Method	H. Brinkman, Glen Ridge, N. J 257 *Wire, Apparatus for Drawing, 1,015,913.	Davis, Merrill, Watertown, N. Y. *Portable Furnace, 1,025,515
of, 1,011,522. D. L. Summey, Water-	J. Stratton, Altingham, and E. A. Claremont, Old Trafford, Manchester, England. 131	Davis, E. S., Jersey City, N. J. *Rotary Furnace, 1,010,728
Metal, Pyrophorous, 1,023,661, F. Krieger.	*Wire, Bimetallic, Process for Making,	DeBats, L. H. J., Zelienople, Pa. *Hoist for Crucible Furnaces, 1,013,377 89
Berlin, Germany	J. B. Clemens, Paris, France	De Buigne, Franz, Magdeburg, Germany.
S. Armstrong, New Kensington, Pa 39 Metal Castings, 1,023,604. E. Weintraub,	Carroll, Worcester, Mass	*Process for Casting Metals, 1,026,733 300 Deebe, John D., Detroit, Michigan. *Tube-
	Walther Nacken, Erlan, Germany 386	Forming Machine, 1,034,954
*Metal-Plated Article, 1.027,782. E. L. Watrous, Des Molnes, Iows 342	*Wire-Feeding Mechanism, 1,014,829. J. G. Lepper and W. W. Munville, Waterbury,	ment for Turning Lathes, 1,030,981 343
*Metal Plates, Composite, Method of Making, 1,011,524. L. B. Tebbettes, St. Louis,	*Wire Straightener, 1,012,964. W. T. Ash-	Dingley, B. F., Silon Spring, R. I. *Rotary Burnishing Tool, 1,010,127
Mo 38	eroft, Waterbury, Conn	Donnell, J. W., Evanston, Ill. Alloy, 1,025,131
*Metal Straightening Machine, 1,042,131. S. D. Locke, Bridgeport, Conn 473	Greiner, New Haven, Conn 387	Douglas, E. R., Glenside, Pa. Buffing Ma-
Metals, Coloring, 1,023,291. S. Axelrod, Oberschönwelde, Germany	*Wire Straightening and Cutting Off Ma- chine, 1,030,930. E. F. Shuster, New	chine, 1,022,128
"Metals, Process for Casting, 1,026,733.	Haven, Conn 343	plating Apparatus, 1,034,219 387
Frans De Buigne, Madegburg, Germany 300 Metals, Process of Plating, 1,037,887, M. W. Franklin, Schenectady, N. Y 473	Z	E
W. Franklin, Schenectady, N. Y 473 *Metals and Alloys, Process and Apparatus	Zinc, Process of Electroplating with, 1,012,- 665, 1,017,981. A. A. LeMetre, Paris,	Edwards, V. E., Worcester, Mass. *Rolling Mill, 1,031,055
for Extracting and Refining, 1.031,257. A.	France	Edwards, V. E., Worcester, Mass. *Metal
E. Green, Chicago	Zinc, Process of Recovering, from Galvan- ized Iron Articles, 1,042,315. Eduard	Cutting Shears, 1,031,056
*Micrometer Gauge, 1,021,384, M. A. Smith.	Broemme, St. Petersburg, Russia, and Ru- delf Steinau, Nuremburg, Germany 514	*Manufacture of Cartridge Cases of Brass or Other Alloys of Copper, 1,024,840 258
Woonsocket, R. I	Zinc and Method of Purifying and Improv-	Eldred, B. E., Bronxville, N. YCom-
J. H. Stratton, Cleveland, Ohio 386	ing the Same, 1,020,512. A. J. Rossi, Niagara Falls, N. Y 173	pound Metal Body and Process of Making the Same, 1,043,578

Page.	no.	
Eldridge, H., and W. S. Rockey, New York.	Marino, P., London, Eng. Electrolytic De-	Page.
Manufacturing and Refining Copper Alloys, 1,017,629	position of Metals, 1,028,895	Tebbetts, L. B., St. Louis, Mo. *Method of
Eldridge, H., and W. S. Rockey, New York. *Process of Refining Copper,	plating Process, 1,025,760 258	Making Composite Metal Plates, 1,011,524 38
1,037,538 472	McGrath, Thomas, Springfield, Mass. *Cruc- ible Cover, 1,029,815	Thurman, C. R., Pittsburgh, Pa.—Dust collector, 1,043,551
Eldridge, H., and W. S. Rockey, New York. Frocess of Remelting and Refining Old or	McKnight, W. N., and R. H. Youngman, Pittsburgh, Pa. *Brick for Metallurgic	Tracy, F. W., Chicago. *Casting Appara- tus, 1,017,707
Scrap Copper Alloy, 1,019,524 173	Furnaces, 1,016,350 132	Tscherning, Henry, Freeport, Illinois, Sand
Elliott, P. E., Gloucester, Cumberland, Vic- toria, Australia. *Means for Preventing	Miller, John, Jr., Beloit, Wis. *Disk Grinder, 1,029,882	Sifter, 1,037,371 430
Corrosion of Surface Condensers and Other Metal Structures, 1,020,480	Miller, W. P., Fond du Lac, Wis. *Grind-	•
F	ing and Polishing Machine, 1,025,417 258  *Morris, Albert W., Philadelphia, Pa.—Pres-	Vallone, Charles, and F. R. Rogers, Buffalo, N. Y. *Apparatus for Heating
Finler, B. D., Cleveland, OhioMechanism	sure Casting Apparatus, 1,039,173 514 Morse, Orville, Jackson, Michigan. *Dust	Tubes, Rods or the Like, 1,033,497 387 Van Horn, Wm. H. Baltimore, Maryland.
for Drawing Patterns from Molds, 1,- 032,780	Collector, 1,029,214 301	*Brazing Burner, 1,083,987 429
Franklin, Milton W., Schenectady, N. Y.	N	W
*Process of Plating Metals, 1,037,887 473	Nacken, Walther, Erlau, Germany. *Multiple Wire Drawing Machine, 1,081,572 386	Waibel, Frederick B., Newark, N. J. *Dip-
Gartner, H., Lintorf, Germany. Annealing	Natsman, John J., Detroit, Mich. Compound	Tank with Automatic Cover, 1,020,526 174 Watrous, E. L., Des Moines, Iowa. Metal-
Furnace, 1,027,471 342	for Use in Soldering Aluminum and Process for Forming Same, 1,032,494 386	Plated Article
GeBroot, Jay D., Onalaska, Kans. Brazing Compound, 1,037,234	Nolvak, Adolf Alex. Karl, Bons-on-the-Saar, Germany. *Tube-Rolling Mill, 1,036,300. 430	Casting, 1,023,604 257
Goodrich, Clarence L., Hartford, Conn. •At- tachment for Turret Lathes, 1,041,994 473	D	Werth, Federico, Milan, Italy. *Apparatus for Galvanizing Metal Tubes, Rods and
Green, A. E., Chicago. *Process and Apparatus for Extracting and Refining	Parish, H. F., New York. *Method of	the Like, 1,015,863
Metals and Alloys, 1,031,257 343	Electro-Welding, 1,034,290 429	chine for Making Collapsible Tube Caps,
Greiner, Charles, New Haven, Conn. *Wire Straightener, 1,032,823	Pennell, John W., Youngstown, Ohio.— Trolley Wheel, 1,039,589	1,033,043
Grey, C. M., E. Orange, N. J. Art of	Pipher, Edward, Port Hope, Out., Can. *Flask for the Casting of Metal Bodies,	*Slotting Machine, 1,029,653 301 Wold, Olaus C., Chicago. *Air-Brush,
Making Castings, 1,013,548 89	1,028,603 342	1,017,358 132
Hartmann, Geza, San Francisco, and R. J.	Pitkin, Stephen H., and H. Stratton, Cleveland, Ohio. *Chilian Mill, 1,031,730 386	Y
Busch, Los Angeles, Cal. Metallic Alloy,	Plaute, A. H., Atlanta, Ga. *Metal-Bending Machine, 1,016,771	Youngman, R. H., and W. N. McKnight,
1,020,757	Pridmore, E. A., La Grange, Illinois. *Mold-	Pittsburgh, Pa. *Brick for Metallurgic Furnaces, 1,016,350
ess for Electrolytic Cleansing, 1,041,790. 514 Higgin, Henry, Newport, Kentucky. *Ma-	ing Machine, 1,027,066 300	
chine for Making Metal Tubes, 1,019,043 173	Q	INDUSTRIALS - APPARA-
Higgin, H., Newport, Kentucky. *Forma- tion of the Ends of Tubes for Drawing	Quigley, Wirt S., Rockaway Park, N. Y.  *Furnace, 1,039,801	TUS AND MATERIALS
Purposes, 1,031,000	D	A
ing Tubes During the Operation of Draw-	Reeves, W. G., E. Providence, R. I. *Roll-	Alumintin 518
ing Them, 1,025,568	ing or Reducing Mill, 1,021,628 216	*Ampere-Hour-Meter, Electroplating 176 *Analysis and Test, Samples for 177
Rolling Finger Rings, 1,026,983 300 Hoffman, George, Hanover, Hainholy, Ger-	Reid, James H., Newark, N. J. *Electric Refining Crucible, 1,026,281 300	*Anode Hook, New
many. *Apparatus for Preparing Old and	Reid, Marcellus, Cleveland, Ohio. *Electroplating Apparatus, 1,028,786 300	В
New Molding Stand, 1,036,239 480 Hoffmann, B., and R. Suchy, Graesheim,	Richardson, Henry B., Attleboro, Mass.	*Barrel, Hot Sawdust Drying-Out, Canning. 261
Germany. Melting and Casting Magnesium	*Tumbling and Polishing Machine, 1,038,791	*Belt Strapping Attachment, New 136
and Alloys Thereof, 1,028,216 301 Holzapfel, William J., Eddystone, Pa.	Riddell, John, Schenectady, N. Y. *Sher-	*Brush, Sectional Wheel
*Melting Furnace, 1,037,768 472	ardizing Furnace, 1,034,930 429 Rockey, W. S., and H. Eldridge, New York.	*Burner. Oil, Stilz 518
Jacquier, Gaston, Belgravia, Transvaal, Anti-	Manufacturing and Refining Copped Alloys, 1,017,629	С
Corrosive Alloy or Metallic Compound,	Rockey, W. S., and H. Eldridge, New York.	*Cleaning Compound, Electric, Spotless 43 *Core Oven, Crawford
1,019,963	*Process of Refining Copper, 1,037,538 472 Rockey, W. S., and H. Eldridge, New York.	*Core Ovens Reel Type 34
Calipers, 1,021,080	Process of Remelting and Refining Old or Scrap Copper Alloy, 1,019,524	*Crucible Base Block, A New
Mechanism, 1.022,086 216	Rockwell, Walter S., New York. *Furnace	D
Johnston, Robert T., Scotch Plains, N. J.  *Attachment for Melting Furnaces,	for Annealing, etc., 1,037,665	*Damard Lacquer
1,037,853	Buffalo, N. Y. *Apparatus for Heating Tubes, Rods or the Like, 1,033,497 387	*Drill, Multiple, For Drilling Metal Plates. 4: *Drying Out Machine, Jewelry476, 47
Blast Device, 1,016,415 131	Rossi, A. J., Niagara Falls, N. Y. Zinc and Method of Purifying and Improving	*Drying Out Machine, New
Kauffmann, Jacob, Wilmersdorf, Germany. Process of Inlaying Metal in Masses, Such	the Same, 1,020,512 173	*Dust Collector, Dixon's
as Celluloid, Ebonite, etc., 1,024,203 257	S	*Dynamo, New Type of Electroplating 4
K	Savory, E. M., Bristol, EuglandDie	*Dynamos, "Excell-All"
Kissel, B. L., Joplin, Mo. *Blowpipe, 1,028,363	Stamping Press, 1,043,362	C
1,028,363	Machine, 1,043,973	*Electroplater, Stevens' Mechanical 17 Emery Process, Keystone
Koenig, R., Brooklyn, N. Y. Tube Draw-	*Tube-Making Machine, 1,031,965 387 Schmid, Alfred, Zürich, Switzerland.—Alloy	F
ing Machine, 1,019,805	of Copper and Zinc, 1,040,027 514	Flask, Boltless Interchangeable 51:
ous Metal, 1,023,861 257	Shuster, E. F., New Haven, Conn. *Wire Straightening and Cutting-off Machine,	*Furnace, Annealing and Hardening, Rotary, Rockwell
L	1,030,930	Furnace, Crucible, Anthony
Leffel, C. E., Meadville, Pa. *Electroplat-	Smith, M. A., Woonsocket, B. I. *Micro- meter Gauge, 1,021,384	*Furnace, Crucible, Tilting
ing Rack, 1,010,648	Standee, J., Brooklyn, N. Y. *Machine for Making Lock-Joined Angular Metal Tub-	*Furnace Plant, New
Support, 1,036,654	ing, 1,023,049 217	G
casting Apparatus, 1,013,665 90 LeMetre, A. A., Paris, France. Process for	Steele, D. R., Curtis Bay, Maryland.  *Crucible Furnace, 1,029,090 301	Galvanizing Process, Improved 30
Electroplating with Zinc, 1,012,665,	Steinau, Rudolf, Nuremburg, Germany, and Eduard Broemme, St. Petersburg, Russia.	*Gas Burners, High-Pressure 34
1,017,981	-Process of Recovering Zinc from Gal-	*Grinder, New Tool
Lepper, J. G., and W. W. Manville, Water-	vanized Articles, 1,042,315	AND A COMPANY OF THE PARK OF T
1,014,829	mont, Old Trafford, England. *Apparatus	*Hack Saw, Atkins Kwik Kut
Lutz, G. H., Plainfield, N. J. *Electro-	for Drawing Wire, 1,015,913	Ideal Furnace Progress
plating Apparatus, 1,022,487	Cleveland, Ohio. *Chilian Mill, 1,031,730 386 Strecker, Otto C., Eberstadt, Germany.	*Industrial Railways
Articles to be Electroplated, 1,022,794 217	Etching Fluid for Flat Printing Plates of Metal, 1,022,274	J
M	Suchy, R., and B. Hoffmann, Graesheim,	*Jolt Rammer, Mumford
MacKay, Hugo, Dallas, Texas. *Molding	Germany. *Melting and Casting Magnesium and Alloys Thereof, 1,028,216 301	I william with the original or
Machine, 1,021,938	Summey, D. L., Waterbury, Conn. *Machine for and Method of Scalping Flat Metal	Lacquer Enamel, White
*Sand Blast Device, 1,026,688 258	Bars, 1,011,265 38	*Lathe, Precision Bench
Manville, W. W., and J. G. Lepper, Water- bury, Conn. *Wire-Feeding Mechanism,	Summey, D. L., Waterbury, Conn. *Method of and Machine for Extruding Metal,	*Lathes, Metal Spinning
1,014,829 89	1,011,522 39	*Lohmann Galvanizing Process 80

P	age.	
*Machine, Bend Drilling or Counter-Boring. *Machine, Trimming and Curling, Automatic	259	*Bliss, E. W., Company A Large Knuckle Joi *Bliss, E. W., Company Automatic Trimming
*Metal Slitter A New	474	*Bliss, E. W., Company Economies and Operat
Metals, Composite	219	Presses  Bliss, E. W., Company New Toggle Drawing
Metals, Composite  *Mill, A New Three-High Rod	363	New Toggle Drawing
		*Bontempi Rust-Proofic Bridge port, ConnT
*Melders' Bench Auto.  *Molding Machine, A New. Motors and Dynamos, Roth.	300	Proofing Process *Bristol Company, Wat
N		tol Durand Averaging
Neutrol, C. P. Barium Cyanide 2012 %	475	*Canning, W., & Con
Ontife		England.—The Cannin ing-Out Barrel
Oakite	303	*Cincinnati Precision L. Ohio,—Precision Bene
Pax-Oil and Ros Core	474	270000
*Polishing Machine Air Cooled	200	*Damard Lacquer Com
Polishing Stand, Ball Bearing, New Polishing and Grinding Machine, New Auto-	260	Damard Lacquer "Denver Fire-Clay Com
*Press. A Large Knnekla faint	40	-Tilting Crucible Fu *Diamond Machine Com
Press, New Brawing Press, New Single Crank Press, New Toggle Drawing Press, New Toggle Drawing	135	I.—Air-Cooled Polishi *Dixon, William, Inc.
*Press, New Toggle Drawing. *Presses, Double Draw, Economics and	135	*Duplex Shaker Compa
Operations of		Duplex Shakers
R	919	*Eureka Pneumatic Spra
•Riddle, Foundry, Gyratory	477	New Epsco Sprayers Eureka Pneumatic Spra
*Rust-Proofing Process, The Bontempi	221	White Lacquer Ename
Sand Blast Basel		
*Sand Blast Pangborn.  *Sand Blast Barrel, New Self-Contained	432	*Farrel Foundry & Ma Conn.—A New Three-
*Sand Blast Machine	389	*Farrel Foundry & Ma sonla, Conn.—New Or
*Sand Blast Machine, Valveless.  *Sand Blast Mill, New	0.00	
Sand Blast Outfit, New Combination	431	*Gardner Machine Com New Ball Bearing Po
*Scales, Gold, Sliver and Solder. *School of Electroplating and Chemistry	222 345	*Garrison, A., Foundry -New Single Crank
*Shakers, Duplex Soldering Alumaloyd Sheets.	435.4	Grasselli Chemical Con Improved Galvanizing
Rurner Bevice, New, and Improved Gas		*Great Western Manu Leavenworth, Kansas
*Snap Flask, A New *Sprayers, New Epsco *Squeezer, Drop-Plate	300	Riddle
*Squeeser, Drop-Plate	516	
*Torch, Hot Blast		*Hawley Down Draft I Pa.—Furnace Plant,
Trisalyt	94 433	*Henderson Brothers, New Tumbling Barre
Trisalyt  "Tube, Condenser, A. for Marine Work,  "Tube Bending Machines.  "Tube Polishing Marchine, Automatic.  "Tumbling Barrel New Condenses."	136	<ul> <li>*Holtzer-Cabot Electric and Chicago, Ill.—Dy</li> </ul>
*Tumbling Barrel, New	178 260	Hoyt Metal Company, New York.—Aluminti
V		Hoyt Metal Company, 7 Composite Metals
*Valve, Kick, Improved  *Valve, New, for Jolt Rammers  Voltite A Representation	304	Composite Metals  *Hunt, C. W., Composite N. Y.—Industrial Ra
Voltite, A Remarkable Scientific Discovery.	261	
W		Ideal Furnace Company, Ideal Furnace Progre
*Washer, Balancing, "Eccentro".  *Welding Outfit, Oxy-Acetylene		roest rurnace Progre
		*Kaufman, A. G., Man
*Wire Straightener, Automatic *Wood Flooring	347	*Kaufman, A. G., Man
INDUSTRIALS-FIRMS	1	New York New So Improved Gas Burner
	'	Kettle River Company, -Wood Flooring
*Alldays & Onlone Disminstrum D		-Wood Flooring Keystone Emery Mills delphia, Pa,Keyston
*Alldays & Oulons, Birmingham, England.— High-Pressure Gas Burners.	347	*King Manufacturing ( "Eccentro" Balancing "Kohlbusch, Hermann,
New Drying Out Machine	305	*Kohlbusch, Hermann, York.—Gold, Silver a
Mo System for Metal D	474	1
Anterican Museum of Safety, New York,— Safety Device Anthony Company, Long Island City, N. Y.—Anthony Canellal, European	346	*Langeller Manufacturi dence, R. I.—Bend
	475	boring Machine
Automatic District Providence, R.	517	R. I.—Multiple Drill
		*Leiman Brothers, New
*Atkins, E. C. & Company Indiana	260	*Logemann Brothers Co
Status Rwik Rut Hack Saw	219	-Metal Bundling Ma
*Bartley, Jonathan, Crucible Company		Galvanizing Process
Treuton, N. J A New Crucible Base	100	Mogul Company, The, 2
#Bonnatt Officer 11 C	476	*Morgan Construction C Mass.—Continuous W *Morner & Smith. Day
cell-All" Dynamos  Berkel, William, Chemical Works, Jersey City, N. J.—Neutrol C. P. Barium Cyanide 2045/95	433	Suap Flask
2015 % Follows Waterland Canada	475	*Mumford Molding Mac N. JNew Valve for
Blake & Johnson, Waterbury, ConnA		*Munning-Loeb Company

P W Common P	age.	N .	
iss, E. W., Company, Brooklyn, N. Y.— Large Knuckle Joint Press	304	Newark Brush Co., Newark, N. JSec-	age
iss, E. W., Company, Brooklyn, N. Y.— utomatic Trimming and Curling Machine iss, E. W., Company, Brooklyn, N. Y.—	518	Newark Brush Co., Newark, N. J.—Sectional Wheel Brush New Haven Sand Blast Co., New Haven, Conn.—New Self-Contained Sand Blast	. 94
conomies and Operations of Double Draw		Niagara Alkali Company, Niagara Falls.	41
resses iss, E. W., Company, Brooklyn, N. Y.— ew Toggle Drawing Press, ntempt Rust-Proofing Company The	135	0	388
ntempi Rust-Proofing Company, The, ridge port, Conn.—The Boutempi Rust- roofing Process	221	Oakley Chemical Company, New York.—	303
roofing Process istol Company, Waterbury; Conn.—Bris- d-Durand Averaging Instrument	178	Oakite  *Oliver, The W. W. Manufacturing Co., Buffalo, N. Y.—A New Tool Grinder  *Osborn Manufacturing Co., The, Cleve-	94
C		Osborn Manufacturing Company The	42
uning, W., & Company, Birmingham, ngland.—The Canning Hot Sawdust Ery		Cleveland, Ohio.—Direct-Draw Roll-Over Jolter	
og-Out Barrel neinnati Precision Lathe Co., Cincianati, hlo.—Precision Bench Lathe		*Osborn Manufacturing Company. The, Cleveland, Ohio.—Drop-Plate Squeezer *Oven Equipment and Manufacturing Com- pany, New Haven, Conn.—Crawford Core	516
mard Lacquer Company, New York		Oven Oxy-Carbi Company, New Haven, Conn.—	477
amard Lacquer	389	Oxy-Acetylene Weldlag Outfit	134
amond Machine Company, Providence, R.	011	'l'angborn, Thomas W., Company, Hagers-	
-Air-Cooled Polishing Machine xon, William, Inc., New York.—Dust	519	town, Maryland.—Enlarged Sand Blast In- dustry	389
plex Shaker Company, Chicago, 111.—	347	dustry  Pangborn, Thomas W., Company, Hagerstown, Md.—Pangborn Sand Blast  I'axson, J. W., Company, Philadelphia, Pa.	
uplex Shakers	4.52	-Pax Oil and Ros-Core	474
reka Pneumatic Spray Co., New York -		-Polishing Leathers	133
ew Epsco Sprayers		*Reama, Herman H.—School of Electro-	
Vhite Lacquer Enamel	136	plating and Chemistry	
rrel Foundry & Machine Co., Ansonia, onn.—A New Three-High Rod Mill	100	lug Alumaloyd Sheets  Robinson Automatic Machine Co., Detroit, Michigan.—Tube Polishing Machine, Auto-	434
rrel Foundry & Machine Company, An-		*Rockwell Furnace Company New York -	
G	.010	Rockwell, The W. S., Company, New York	346
rdner Machine Company, Beloit, Wis, - ew Ball Bearing Polishing Stand	900	-Rockwell Rotary Annealing and Har- dening Furnace *Rockwell, The W. S., Company, New York,	388
New Single Crank Proce	43	- Kockwell Under-Fired Furnace	434
mproved Galvanizing Process	305	York.—Trisalyt	
eavenworth, Kansas, -Gyratory Foundry		Roth Brothers & Company, Chicago, Illinois, —Roth Motors and Dynamos	
iddle433,	478	Sand Mixing Machine Company, New York.	
wley Down Draft Furnace Co. Easton		*Sangamo Electric Co Springfield III	
a.—Furnace Plant, New	91	Electroplating Ampere-Hour-Meter  *Shuster, F. B., Company, New Haven, Conn.—Automatic Wire Straightener	176
oltzer-Cabot Electric Co., Boston Mass	260	1513. W. W., Manufacturing Company.	
nd Chicago, Ill.—Dynamo, New Plating.  't Metal Company, The, St. Louis and ew York.—Alumintin  't Metal Company, The, St. Louis, Mo.—	518	Cleveland, Ohio.—New Sand Blast Mill.40, Smith, J. D., Foundry Supply Company, Cleveland, Ohio.—Valveless Sand Blast Machine	
omposite Metals int, C. W., Company, New Brighton, . Y.—Industrial Railways	219	Machine *Smith & Richardson, Attleboro, Mass,— Jewelry Drying-Out Machine	476
1	344	Jewelry Drying-Out Machine Souther, Henry, Engineering Corp., Hart- ford, Conn.—Samples for Test and Analy- sls	
al Furnace Company, The, Chester, Pa.— leal Furnace Progress	219	*Spirella Company, Niagara Falls, N. Y.— New Anode Hook	435
K	-	Mechanical Electroplater	
ew York,—Improved Kick Valve	304	Stevens, Frederic B.—Spotless Electric Cleaning Compound Stilz Company, The, Philadelphia, Pa.—	42
ufman, A. G., Manufacturing Company, ew York—New Soldering Device and approved Gas Burner	435	T	518
-Wood Flooring	2.12	*Tolhurst Machine Works, Troy, N. Y.— Jeweler's Drying Out Machine	477
stone Emery Mills, Frankford, Phila- lphia, Pa,—Keystone Emery Process ng Manufacturing Company, Chicago,—	45	Baltimore, Maryland,—Hand Tube Bond	
Eccentro' Balancing Washer. hlbusch, Hermann, 170 Broadway, New	300	or Tube Bending & Polishing Machine Ce., Baltimore, Maryland.—New Automatic	136
ork, Gold, Silver and Solder Scales	222	Polishing and Grinding Machine	40
ngeller Manufacturing Company, Provi-	- 1	*Turner Rease Works The System 111	519
mce, R. I Bead Drilling or Counter.		Turner Brass Works, The, Sycamore III -	94
oring Machine ugeller Manufacturing Co., Providence, I.—Multiple Drill for Drilling Metal		Improved Pump for Turner Torches	519
I.—Multiple Drill for Drilling Metal lates	43	*Vogel & Schemann, 50 Church St., New York —Sand Blast Machine.	
Zemann Brothers Co. Milwaukee Wie	41		
Metal Bundling Machine	92 302	Mumford Jolt Rammer	432
M		*Wadsworth Core Machine & Equipment Co., Akron, Ohio,—New Core-Testing Machine.	93
rgan Construction Company, Worcester,	517	Akron, Ohio.—New Core-Testing Machine. Waldberg Company's Products *Waterbury (Conn.) Farrel Foundry & Ma- chine Company.—New Three-High Rod Mill	519
iner & Smith, Dayton, Ohio - A Now	259	ewaterbury (Conn.) Foundry & Machine	262
inford Molding Machine Co. Plainfold	300		303
mning-Loeb Company Matawan N T	92	*Webster & Perks Tool Co., Springfield, O.  New Belt Strapping Attachment.  *Wood, R. D., & Company, Philadelphia.  New Pression	
ew Type of Electroplating Dynamo	45	New Drawing Press	135

